

SESSION VI

DRUG CATEGORIES AND THEIR OBSERVABLE EFFECTS

## SESSION VI: DRUG CATEGORIES AND THEIR OBSERVABLE EFFECTS

Upon successfully completing this session, the participant will be better able to:

- o Identify the indicators of impairment associated with each category.
- o Describe the expected results of roadside observations/indicators of impairment.
- o Describe the general indicators that may be present for each drug category.

### CONTENT SEGMENTS

- A. CNS Depressants
- B. CNS Stimulants
- C. Hallucinogens
- D. Dissociative Anesthetics
- E. Narcotic Analgesics
- F. Inhalants
- G. Cannabis
- H. Drug Combinations
- I. Medically Impaired Person

### LEARNING ACTIVITIES

- o Instructor-Led Presentations

## A. CNS DEPRESSANTS

### Action

CNS depressants slow down the operations of the brain. They depress the heartbeat, blood pressure, and many other processes controlled by the brain.

### Examples

- o Alcohol
- o Barbiturates
- o Anti-Anxiety Tranquilizers (e.g., Valium, Librium, Xanax, Prozac, and Thorazine)
- o GHB (Gama Hydroxy Butarate)
- o Rohypnol
- o Many Others

### Expected Results of Roadside Observations/Indicators of Impairment

#### Psychophysical

- o Divided attention impairment
- o Poor coordination and balance
- o Slowed internal clock

#### Eye Indicators

- o Horizontal Gaze Nystagmus usually present.
- o Vertical Nystagmus will be present (with high doses for that individual).
- o Pupil size usually normal
- o Eye lids may be droopy and eyes watery.

#### Methods of Ingestion

- o Orally
- o Injected

#### General Indicators

- o "Drunken" behavior
- o Sluggish
- o Drowsy
- o Flaccid muscles
- o Thick, slurred speech

### Other Conditions That May Cause Similar Symptoms

- o Extreme fatigue
- o Head injury
- o Hypotension (lowering of the blood pressure)
- o Severe depression
- o Inner ear disorders
- o Diabetic reaction

## **B. CNS STIMULANTS**

### Action

CNS stimulants accelerate the heart-rate and elevate the blood pressure, and "speed up" or over-stimulate many other processes of the body. Subjects under the influence of CNS stimulants tend to be hyperactive, nervous, talkative, and unable to sit still. They are usually unable to concentrate, or think clearly for any length of time.

### Examples

- o Cocaine
- o "Crack"
- o Amphetamine
- o Methamphetamine

### Expected Results of Roadside Observations/Indicators of Impairment

#### Psychophysical Indicators

- o Divided attention impairment
- o Starts test too soon
- o Accelerated internal clock
- o Completes test too quickly
- o Rapid and jerky movements

#### Eye Indicators

- o Nystagmus will usually not be present
- o Pupils usually will be dilated

### Methods of Ingestion

- o Smoked
- o Snorted
- o Injected
- o Orally

### General Indicators

- o Restlessness
- o Talkative
- o Excitation
- o Euphoria
- o Exaggerated reflexes
- o Grinding Teeth
- o Redness to nasal area
- o Runny nose
- o Body Tremors
- o Loss of appetite

### Other Conditions That May Cause Similar Symptoms

- o Hyperactivity
- o Nervousness
- o Stress
- o Fear
- o Hypertension

## **C. HALLUCINOGENS**

### Action

Hallucinogens may cause hallucinations, i.e., they cause the user to perceive things differently than they actually are.

### Examples

- o LSD
- o Peyote
- o Psilocybin
- o MDMA (Ecstasy)

## Expected Results of Roadside Observations/Indicators of Impairment

### Psychophysical Indicators

- o Uncoordinated
- o Severe divided attention impairment
- o Poor perception of time and distance
- o Poor balance
- o Distorted internal clock

### Eye Indicators

- o Vertical or Horizontal Nystagmus usually not present
- o Pupils will be dilated

### Methods of Ingestion

- o Orally
- o Smoked
- o Transdermal absorption (absorbed through the skin)
- o Injected
- o Snorted

### General Indicators

- o Hallucinations
- o Dazed appearance
- o Body tremors
- o Perspiring
- o Piloerection (LSD)
- o Disorientation
- o Paranoia
- o Difficulty in speech
- o Nausea

### Other Conditions That May Cause Similar Symptoms

- o Mental illness
- o High fever

## D. DISSOCIATIVE ANESTHETICS

### Action

Dissociative Anesthetics may produce impairments and other observable effects on the human mind and body much like the effects produced by depressants, stimulants and hallucinogens. Dissociative Anesthetics also induces a state of sedation, immobility, amnesia and marked analgesia.

### Examples

- o Phencyclidine
- o Dextromethorphan (DXM)
- o Ketalar (analog of PCP)
- o Ketaset (analog of PCP)
- o Ketamine (analog of PCP)

### Expected Results of Roadside Observations/Indicators of Impairment

#### Psychophysical Indicators

- o Divided attention impairment
- o May take abnormally high and slow steps as though they were attempting to step over obstacles
- o Slowed internal clock

#### Eye Indicators

- o Horizontal Gaze Nystagmus will be present, generally with a very early angle of onset.
- o Vertical Nystagmus generally will be present.
- o Pupil size is usually normal.
- o Suspect may have a blank stare.

#### Methods of Ingestion

- o Smoked
- o Inhaled or snorted
- o Orally (in capsule or tablet form)
- o Injected
- o Transdermal absorption (directly absorbed through the skin)

### General Indicators

- o Slow, slurred speech
- o Disorientation
- o Loss of memory
- o Agitation, Excitement
- o Blank stare
- o Cyclic behavior
- o Rigid muscle tone
- o Warm to touch
- o Perspiring
- o Chemical odor (PCP)

### Other Conditions That May Cause Similar Symptoms

- o Mental disorder

## **E. NARCOTIC ANALGESICS**

### Action

Narcotic analgesics relieves pain, induces euphoria, and changes mood.

### Examples

- o Opium
- o Codeine
- o Heroin
- o Demerol
- o Darvon
- o Morphine
- o Dilaudid
- o Methadone
- o Oxycontin

### Expected Results of Roadside Observations/Indicators of Impairment

#### Psychophysical Indicators

- o Divided attention impairment
- o Poor coordination and balance
- o Slowed internal clock



### Eye Indicators

- o Horizontal Gaze Nystagmus will not be present
- o Vertical Nystagmus will not be present
- o Pupil size will be constricted
- o Eyelids will be droopy

### Methods of Ingestion

- o Injected
- o Smoked
- o Snorted
- o Orally
- o Suppositories

### General Indicators

- o Slowed reflexes
- o Slow, low and raspy speech
- o Muscle tone - flaccid

## **F. INHALANTS**

### Action

Inhalants include a wide variety of breathable chemicals that produce mind-altering results.

### Examples

- o Toluene
- o Plastic cement
- o Paint
- o Gasoline
- o Thinners
- o Hair sprays
- o Deodorants
- o Anesthetic gases

## Expected Results of Roadside Observations/Indicators of Impairment

### Psychophysical Indicators

- o Divided attention impairment
- o Poor coordination and balance

### Eye Indicators

- o Horizontal Gaze Nystagmus will be present
- o Vertical Nystagmus may be present, especially if a high dose, for that individual, of inhalant has been taken
- o Pupils normal or dilated depending on substance used

### Methods of Ingestion

- o Inhaling
- o Some are ingested directly from the source

### General Indicators

- o Dizziness and numbness
- o Floating sensation
- o Distorted perceptions of time and distance
- o Intense headaches
- o Nausea

## **G. CANNABIS**

### Action

Cannabis appears to interfere with a person's ability or willingness to pay attention. People under the influence of Cannabis usually do not divide their attention very well. When driving, they may attend to certain parts of the driving tasks but ignore others. For example, they may continue to steer the car but ignore stop signs, traffic lights, etc.

### Examples

- o Marijuana
- o Hashish
- o Hashish oil
- o Marinol

## Expected Results of Roadside Observations/Indicators of Impairment

### Psychophysical Indicators

- o Divided attention impaired
- o Poor coordination and balance
- o Slowed internal clock

### Eye Indicators

- o Horizontal Gaze Nystagmus will not be present
- o Vertical Nystagmus will not be present
- o Pupils will be dilated or normal

### Methods of Ingestion

- o Smoking
- o Orally (hash oil and hashish)

### General Indicators

- o Diminished inhibitions
- o Impair perception of time and distance
- o Eyelid and body tremors
- o Impaired attention
- o Redness of eyes
- o Residue in mouth

## **H. DRUG COMBINATIONS (Polydrug) Use**

Experience across the country suggests that polydrug use, the simultaneous consumption of two or more categories of drugs is very common among drug users.

The Los Angeles Field Validation Study found that 72% of the suspects were found to have two or more drugs in their system.

New York City found that during Drug Certification Training 67% of the suspects tested were polydrug users.

Alcohol routinely shows up in combination with virtually all drug categories.

Suspects are often encountered who have consumed alcohol with two or more drugs.

Cannabis is a popular mixer and frequently shows up in combination with cocaine, PCP with other drugs.

#### Common Combinations

- o Cocaine and Cannabis
- o Cocaine and Heroin
- o PCP and Cannabis

#### Possible Effects

The nature and use of drug combinations (polydrug) may result in a wide range of effects.

#### DEALING WITH SUSPECTED DRUG INFLUENCE OR MEDICAL IMPAIRMENT

Students should become familiar with their agency's policies and procedures for handling drug or medically impaired subjects.

| INDICATORS CONSISTENT WITH DRUG CATEGORIES |                      |            |              |                          |             |                      |            |
|--|----------------------|------------|--------------|--------------------------|-------------|----------------------|------------|
|  | DEPRESSANT           | STIMULANTS | HALLUCINOGEN | DISSOCIATIVE ANESTHETICS | NARCOTIC    | INHALANT             | CANNABIS   |
| HGN  | PRESENT              | NONE       | NONE         | PRESENT                  | NONE        | PRESENT              | NONE       |
| VERTICAL NYSTAGMUS                         | PRESENT (HIGH DOSE)* | NONE       | NONE         | PRESENT                  | NONE        | PRESENT (HIGH DOSE)* | NONE       |
| PUPIL SIZE                                 | NORMAL(1)            | DILATED    | DILATED      | NORMAL                   | CONSTRICTED | NORMAL(2)            | DILATED(3) |

\* high dose for that particular individual

**FOOTNOTE:**

These indicators are those most consistent with the category, keep in mind that there may be variations due to individual reaction, dose taken and drug interactions.

1. SOMA, Quaaludes usually dilate pupils.
2. Normal but may be dilated.
3. Pupil size possibly normal.

| MAJOR INDICATORS          | CNS DEPRESSANTS   | CNS STIMULANTS   | HALLUCINOGENS  | DISSOCIATIVE ANESTHETICS   | NARCOTIC ANALGESICS  | INHALANTS  | CANNABIS  |
|---------------------------|---|--|--|--|--|--|---|
| <b>GENERAL INDICATORS</b> | Uncoordinated<br>Disoriented<br>Sluggish<br>Thick, slurred speech<br>Drunk-like behavior<br>Gait ataxia<br>Drowsiness<br>Droopy eyes<br>Fumbling<br><br>*NOTE: With Methaqualone, pulse will be elevated and body tremors will be evident. Alcohol and Quaaludes elevate pulse. Soma and Quaaludes dilate pupils. | Restlessness<br>Body tremors<br>Excited<br>Euphoric<br>Talkative<br>Exaggerated reflexes<br>Anxiety<br>Grinding teeth (bruxism)<br>Redness to nasal area<br>Runny nose<br>Loss of appetite<br>Insomnia<br>Increased alertness<br>Dry mouth<br>Irritability | Dazed appearance<br>Body tremors<br>Synesthesia<br>Hallucinations<br>Paranoia<br>Uncoordinated<br>Nausea<br>Disoriented<br>Difficulty in speech<br>Perspiring<br>Poor perception of time & distance<br>Memory loss<br>Disorientation<br>Flashbacks<br><br>NOTE: With LSD, piloerection may be observed (goose bumps, hair standing on end) | Perspiring<br>Warm to the touch<br>Blank stare<br>Very early angle of HGN onset<br>Difficulty in speech<br>Incomplete verbal responses<br>Repetitive speech<br>Increased pain threshold<br>Cyclic behavior<br>Confused agitated<br>Hallucinations<br>Possibly violent & combative<br>Chemical odor<br>"Moon walking" | Droopy eyelids ("ptosis")<br>"On the nod"<br>Drowsiness<br>Depressed reflexes<br>Low, raspy, slow speech<br>Dry mouth<br>Facial itching<br>Euphoria<br>Fresh puncture marks<br>Nausea<br>Track marks<br><br>NOTE: Tolerant users exhibit relatively little psychomotor impairment. | Residue of substance around nose & mouth<br>Odor of substance<br>Possible nausea<br>Slurred speech<br>Disorientation<br>Confusion<br>Bloodshot, watery eyes<br>Lack of muscle control<br>Flushed face<br>Non-communicative<br>Intense headaches<br><br>**NOTE: Anesthetic gases cause below normal blood pressure; volatile solvents and aerosols cause above normal blood pressure. | Marked reddening of conjunctiva<br>Odor of marijuana<br>Marijuana debris in mouth<br>Body tremors<br>Eyelid tremors<br>Relaxed inhibitions<br>Increased appetite<br>Impaired perception of time & distance<br>Disorientation<br>Possible paranoia |

## SCENARIO I

While checking an interstate rest area, you notice a vehicle parked, engine running, with the driver apparently sleeping. After awakening the driver, who claims she was not sleeping, you notice that her actions are very slow and lethargic. There is no odor of alcoholic beverage on this person's breath and she states she has not been drinking. As you administer the standardized field sobriety tests, you observe that there is no Horizontal Gaze Nystagmus and no Vertical Nystagmus. You also observe that her pupils are extremely small and the eyelids are droopy. As the driver is performing the walk and turn and one leg stand tests, her movements are slow. Administration of the Romberg test disclosed that the subject has a slow internal clock.

## SCENARIO II

On a Saturday evening following a concert, you stop a vehicle for weaving down the street. During the initial conversation with the subject you notice that he is talking very rapidly, has extremely large pupils and is paranoid. The subject states that he was trying to avoid the large snails that were on the road. There is no odor of an alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is no Horizontal Gaze Nystagmus and no Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand, his movements are fast, then slow, then fast again; and was having difficulty dividing attention. Administration of the Romberg test discloses that the subject has a fast internal clock and goosebumps. After the Romberg test the subject stated that he was confused by the loud noise coming from the Police Officer's raincoat.

### SCENARIO III

It is August, you arrive on the scene of a serious traffic crash. You notice that the driver is wearing a long sleeve shirt and different smelling smoke escapes from the vehicle. He is not able to stay awake but is able to answer your questions. The sleeve of his shirt slides up and you notice red marks on his arms. He has no Horizontal Gaze Nystagmus and no Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand tests, his movements are slow and deliberate. Administration of the Romberg test disclosed that the subject has a slow internal clock. His eyes are reddish and pupils appear to normal.



## SCENARIO IV

On a Saturday evening following a concert, you stop a vehicle for speeding (70 in a 35). During the initial conversation with the subject you notice that she is talking very rapidly, has extremely large pupils and is anxious. There is no odor of an alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is no Horizontal Gaze Nystagmus and no Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand, her movements are fast. Administration of the Romberg test discloses that the subject has a fast internal clock and muscle tremors.

## SCENARIO V

You receive a call to back-up a fellow officer who has stopped a vehicle and is now wrestling with the operator. Upon arrival, you observe that the subject is naked (the temperature is thirty degrees). He appears to be somewhat cooperative but non-communicative. There is no odor of alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is Horizontal Gaze Nystagmus with immediate onset and Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand tests, his movements are slow and rigid. He was having difficulty dividing attention. Administration of the Romberg test discloses that the subject has a slow internal clock. His skin is warm to the touch.

## SCENARIO VI

You have responded to a one car property damage crash. In your initial conversation with the operator you observe him to be drowsy. There is no odor of alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is Horizontal Gaze Nystagmus and Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand, his movements are slow and his muscle tone appears flaccid. Administration of the Romberg test discloses that the subject has a slow internal clock. The subject's pupils appeared normal in size.

## SCENARIO VII

You receive a call to assist a local officer and he explains that he stopped the vehicle for obvious driving impairment. The driver displayed numerous clues and indicators of impairment during the SFSTs. However, he did not demonstrate any clues in Horizontal Gaze Nystagmus or Vertical Nystagmus. Larger than normal pupils and noticeable fluttering eyelids during the Romberg were detected. His internal clock was slowed to 60 seconds. The whites of his eyes appear reddish. He seems totally unconcerned with the thought of possibly being arrested.

## SCENARIO VIII

You stop a vehicle for running a red light. As you observe the driver, he is slow to respond, perspiring, and is easily agitated. As the subject is performing the walk and turn and one leg stand, you observe that the subject is very rigid and is having a difficult time dividing attention. He has Horizontal Gaze Nystagmus and Vertical Nystagmus. His eyes are reddish and pupils are larger than normal. Administration of the Romberg test disclosed that the subject has a distorted internal clock.